

REMARKS

Claims 1-20 are now pending in the application. Minor amendments have been made to the specification and drawings to correct typographical errors as requested by the Examiner. Independent claims 1 and 10 have been amended to incorporate subject matter substantially recited in dependent claims 3 and 15 as originally filed. Dependent claims 3 and 15 are requested to be cancelled without prejudice or disclaimer of the subject matter recited therein. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

DRAWINGS

The drawings stand objected to for certain informalities. Applicant(s) have attached revised drawings for the Examiner's approval. In the "Replacement Sheet" of Figure 1 there are two changes. For example, "form editing history module" has been given a label 32. Also, "touch screen display" has been given a label 46. These additions were requested by the Examiner in view of labels recited in the specification as originally filed at page 8.

SPECIFICATION

The specification stands objected to for certain informalities. Applicants have amended the specification according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-3, 6, 8-10, 14-15, 17, and 19-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Takebayashi et al. (U.S. Pat. No. 5,577,165). This rejection is respectfully traversed.

Notwithstanding, independent claims 1 and 10 have been amended to recite audio feedback echoing at least one of recognized values and recognized commands is performed upon interpretation of each input utterance, and a sequence of the recognized values echoed in the audio feedback reflects a sequence of the spotted words within the input utterance". Support for these amendments may be found in the claims as originally filed at claims 3 and 15, and in the specification as originally filed at paragraph [0005], "Recognized values are echoed back to the speaker via a text-to-speech system". Support may also be found at paragraph [0024], "the presently preferred embodiment uses a tightly coupled dialogue model that provides instant feedback to the officer of each uttered block of text, affording the officer the immediate opportunity to correct any recognition errors". Paragraph [0025] further illustrates exemplary operation of the system and method of the present invention with audio feedback echoing recognized values and/or recognized commands being performed upon interpretation of each input utterance, such that a sequence of the recognized values echoed in the audio feedback reflects a sequence of the spotted words within the input utterance. These differences from the teachings of Takebayashi et al. are significant because they accommodate the difficulties associated with the "hands and eyes free" task of sequential data entry absent semantic context as more fully explained in the application as originally filed at paragraph [0024].

Takebayashi et al. does not teach performance of audio feedback echoing recognized values or recognized commands upon interpretation of each input utterance, such that a sequence of the recognized values echoed in the audio feedback reflects a sequence of the spotted words within the input utterance. Instead, Takebayashi et al.

teaches a response generation unit having visual and audio output functionality as discussed at column 7, lines 22-42. This response generation outputs a synthesized voice according to an "appropriate response output", which appears to correspond in some instances to a prompt for further input, such as "Would you like fries with that?", and in other instances to a confirmation of contents of the order. Use of this "response output" is discussed at column 6, line 51 through column 7, line 10, including constraining recognition of a subsequent input from the user according to the preceding "response output". However, Takebayashi et al. has only a superficial appearance of similarity to Applicants' claimed invention.

In one instance, the system and method of Takebayashi et al. appears to be superficially similar to Applicants' claimed invention at Figure 30B. Particularly, the system of Takebayashi et al. fills a food item ordering form with recognized values, such as a "Hamburger" and a "Cola". Then, the system asks for a confirmation of the order with a prompt that includes the contents of the form. However, it is not clear whether the user stated "Hamburger" and then "Cola", or stated "Cola" and then "Hamburger". Thus, there is no evidence to support a preservation of sequence of the data entry, and the sequence of entry does not appear to be important in the context of ordering food items. Further, the next step of the ordering process adds two "Hamburgers" and two "Coffees" to the form, and a prompt asks for confirmation of the recognized values and the command of adding the items. However, it is notable that the system of Takebayashi et al. places "Coffees" on the filled form between the "Hamburgers" and "Colas", and that each type of food item is grouped together in the form in a fungible fashion. Thus, it is not important to the system of Takebayashi et al. which of the

"Hamburgers" a user wishes to delete. In contrast, it is significant according to Applicants' claimed invention that the license plate number has a sequential component, that the sequence of entry is preserved in the license plate form field or fields, and that multiple recognized values are echoed back to the user based on the sequence of corresponding spotted words in an input utterance.

In summary, it appears unlikely that the system of Takebayashi et al. preserves any sequence of input in the form or echoes the values based on the sequence of the spotted words in the input utterance. Rather, the echoing of values appears to be based on the order in which items are located on the form, and this order is clearly not sequential as revealed in Figure 30B, where "Coffees" are arbitrarily added in between previously ordered items. Thus, in the rare occasions where the system of Takebayashi et al. does manage to echo the values in the order they were received, this occurrence is coincidental at best. These differences are significant because they render the teachings of Takebayashi et al. unsuitable for the type of "hands and eyes free" sequential data entry provided in accordance with Applicants' claimed invention.

Applicants respectfully request the Examiner withdraw the rejections of independent claims 1 and 10 under 35 U.S.C. §102(b) based on Takebayashi et al., along with rejections on these grounds of all claims dependent therefrom.

REJECTION UNDER 35 U.S.C. § 103

Claims 4, 5, 11, 12, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takebayashi et al. (U.S. Pat. No. 5,577,165) in view of LaRue (U.S. Pat. No. 5,748,840). This rejection is respectfully traversed.

Firstly, Applicants respectfully refer the Examiner to remarks made above with respect to rejection under 35 U.S.C. §102(b). Thus, Takebayashi et al. fails to teach, suggest, or motivate all of the elements of Applicants' claimed invention, especially as amended. Also, Applicants note that LaRue fails to teach, suggest, or motivate all of the elements of Applicants' claimed invention, especially as amended. In particular, LaRue fails to teach suggest, or motivate "audio feedback echoing at least one of recognized values and recognized commands is performed upon interpretation of each input utterance, and a sequence of the recognized values echoed in the audio feedback reflects a sequence of the spotted words within the input utterance" as recited in independent claims 1 and 10. The Examiner does not rely on LaRue in this capacity. Moreover, neither Takebayashi et al. nor LaRue, alone or combined, teach, suggest, or motivate all of the elements of Applicants' claimed invention, especially as amended. These differences are significant.

Secondly, Applicants respectfully draw the Examiner's attention to added claim 21 that recites "providing a full duplex dialogue interaction including speech recognition and passive, auditory feedback." Added claim 22 recites similar subject matter. These additions are fully supported in the Application as originally filed at paragraphs [0021], [0022], [0025], and [0026]. In particular, full duplex dialogue interaction is provided that allows the user to speak at any time and the system to generate prompts at any time. The feedback is passive in that no answer is required from the user to confirm that the recognition is correct. Rather, the user may respond to the feedback if the recognition is incorrect and thereby enter and correct sequential data in a manner having greater facility than that provided in the prior art. These differences are significant for reasons

detailed in the application as originally filed at paragraph [0022]. In contrast, Takebayashi et al. provides a half-duplex system that splits the dialogue into “input states” and “output states”. Following feedback, the system requires at least one of confirmation and contradiction of the recognition results with a keyword, such as “yes”, “no”, “add”, and others mapped to commands such as addition, cancellation, and replacement. These commands cause the system to populate new act frames and exit the input state (Figure 5, column 10, lines 7-24, Figure 12, column 13, lines 41-column 14, line 2) . Similarly, LaRue provides a half duplex system that waits for a “yes” or “no” response from the user after each synthesized feedback utterance before going back into an input mode (column 7, lines 14-34). Therefore, neither Takebayashi et al. nor LaRue, alone or combined, teach, suggest, or motivate all of the limitations recited in claims 21 and 22.

Applicants respectfully request the Examiner withdraw the rejection of claims 4, 5, 11, 12, and 16 under 35 U.S.C. §103(a) based on their dependency from allowable base claims.

Claims 7 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takebayashi et al. (U.S. Pat. No. 5,577,165) in view of Cornelison (U.S. Pat. No. 5,263,118). This rejection is respectfully traversed.

Firstly, Applicants respectfully refer the Examiner to remarks made above with respect to rejection under 35 U.S.C. §102(b). Thus, Takebayashi et al. fails to teach, suggest, or motivate all of the elements of Applicants' claimed invention, especially as amended. Also, Applicants note that Cornelison fails to teach, suggest, or motivate all of the elements of Applicants' claimed invention, especially as amended. In particular,

Cornelison fails to teach suggest, or motivate “audio feedback echoing at least one of recognized values and recognized commands is performed upon interpretation of each input utterance, and a sequence of the recognized values echoed in the audio feedback reflects a sequence of the spotted words within the input utterance” as recited in independent claims 1 and 10. The Examiner does not rely on Cornelison in this capacity. Moreover, neither Takebayashi et al. nor Cornelison, alone or combined, teach, suggest, or motivate all of the elements of Applicants’ claimed invention, especially as amended. These differences are significant.

Secondly, Applicants respectfully direct the Examiner’s attention to arguments made above with respect to added claims 21 and 22. Applicants further note that Cornelison fails to teach, suggest, or motivate the recited subject matter. In particular, Cornelison teaches a half duplex system that exits an input mode and enters an output mode when the search string is complete (Figure 3). Determination of search string completion is based on a command from the user (column 7, lines 52-54). During the input mode, the system apparently assumes that unrecognized input is noise and disregards it, providing no feedback to the user during the input mode (Figure 3). The user is given no opportunity to correct misrecognition, and output only indicates whether the license plate is on file for a violation and, if so, the type of violation (Figure 3). Thus, the user has no way of knowing whether the plate number was recognized correctly because no recognition-related feedback is provided. Therefore, neither Takebayashi et al. nor Cornelison, alone or combine, teach, suggest, or motivate all of the limitations recited in claims 21 and 22.

Applicants respectfully request the Examiner withdraw the rejection of claims 7 and 18 under 35 U.S.C. §103(a) based on their dependency from allowable base claims.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: Jan 30, 2004

By: Greg Stobbs
Gregory A. Stobbs
Reg. No. 28,764

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

[JSB/kp]